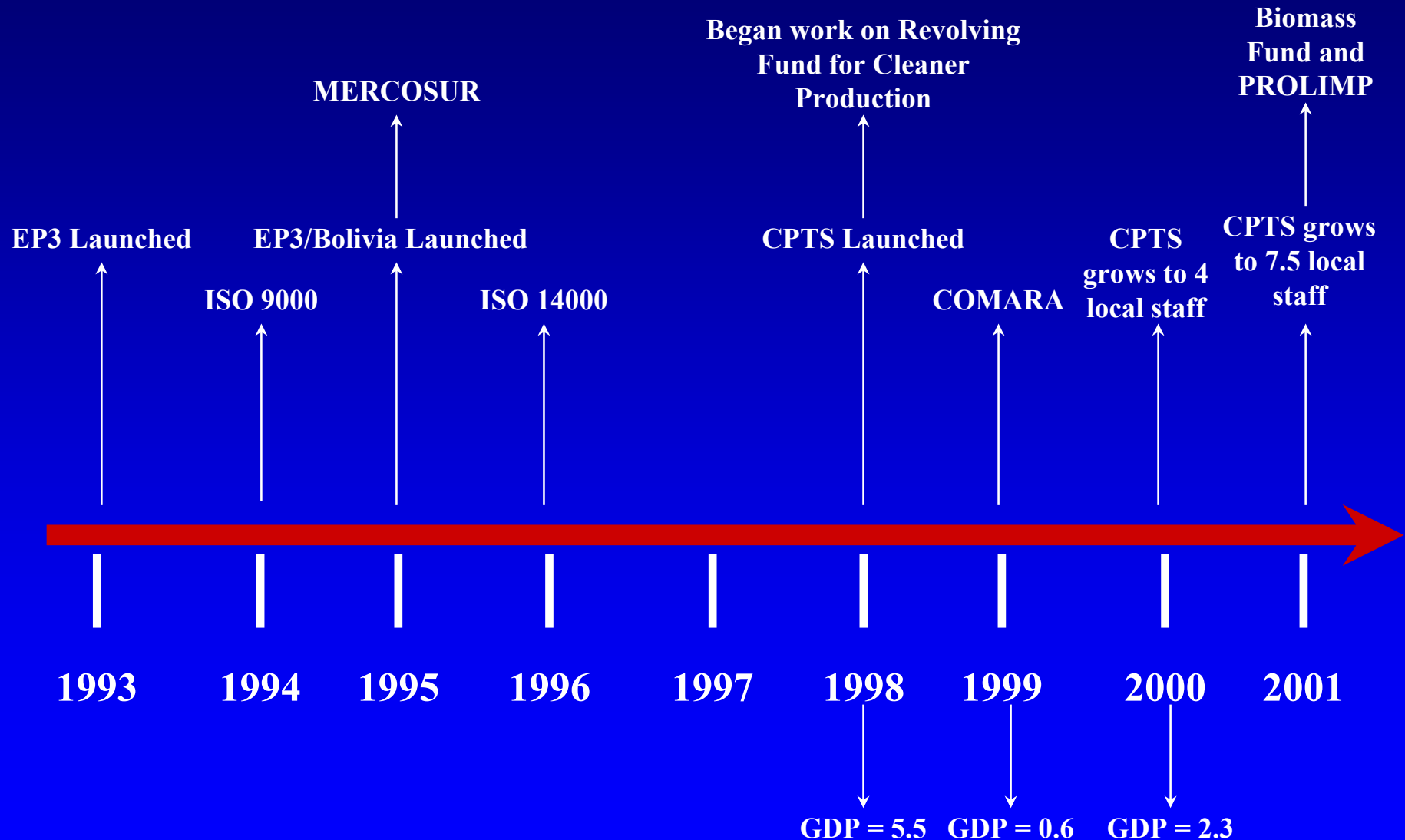


Cleaner Production

Centro de Promoción de
Tecnologías Sostenibles - CPTS

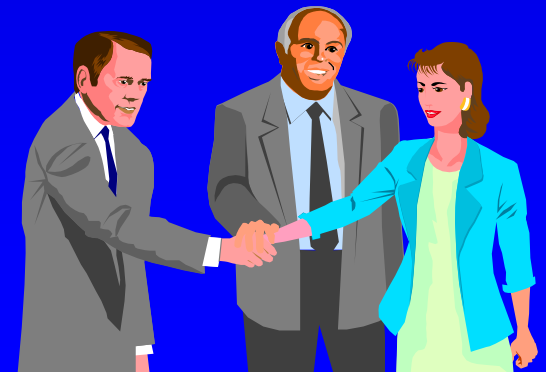
November 01, 2001

From EP3 to CPTS



EP3 Bolivia (BP3)

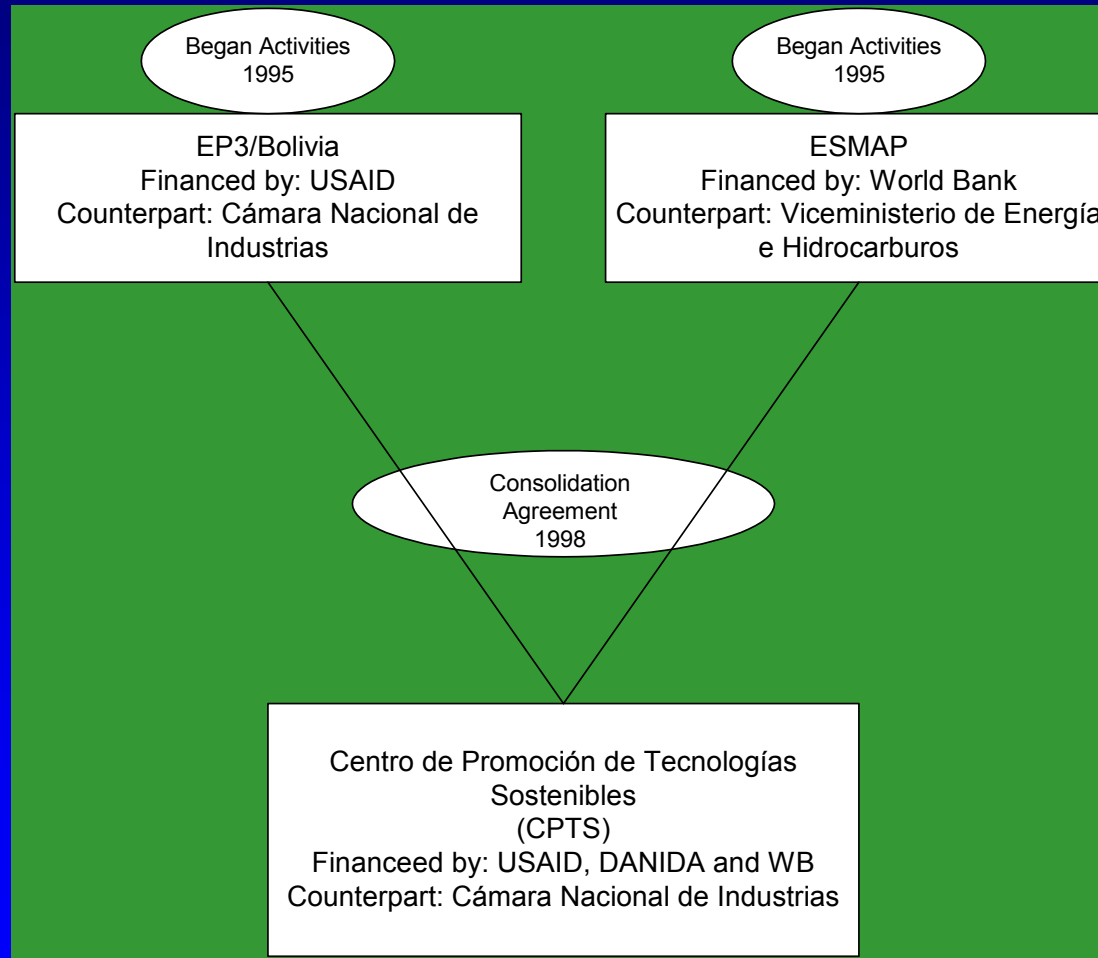
- Started in September 1995
- Planned as a 2-year program, but extended to 3 years
- Initial funding of \$425,000 from USAID/LAC was later increased to \$700,000 by USAID/Bolivia
- Memorandum of Understanding between Hagler Bailly and the Camara Nacional de Industrias



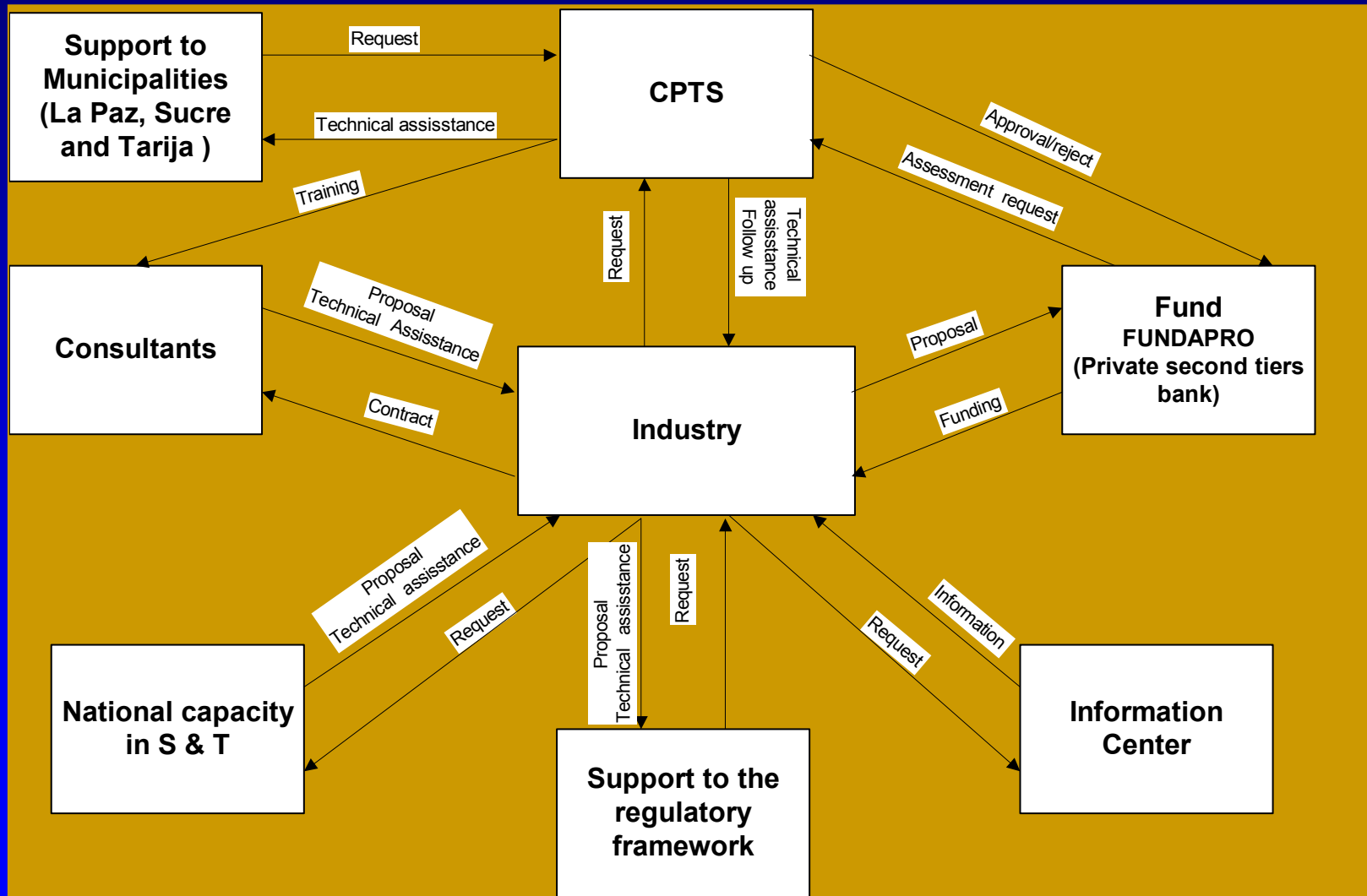
BP3 Accomplishments

- 60% implementation rate achieved on BP3 recommendations
- Increased awareness of industrial pollution issues and CP approaches as a result of BP3 and CNI training and outreach efforts
- Increasing industry requests for audits and TA
- Environmental Unit established in CNI
- Additional donor funding obtained
- Pipeline of projects appropriate for loans from the Fund
- CPTS created by combining BP3 and ESMAF

Creation of CPTS



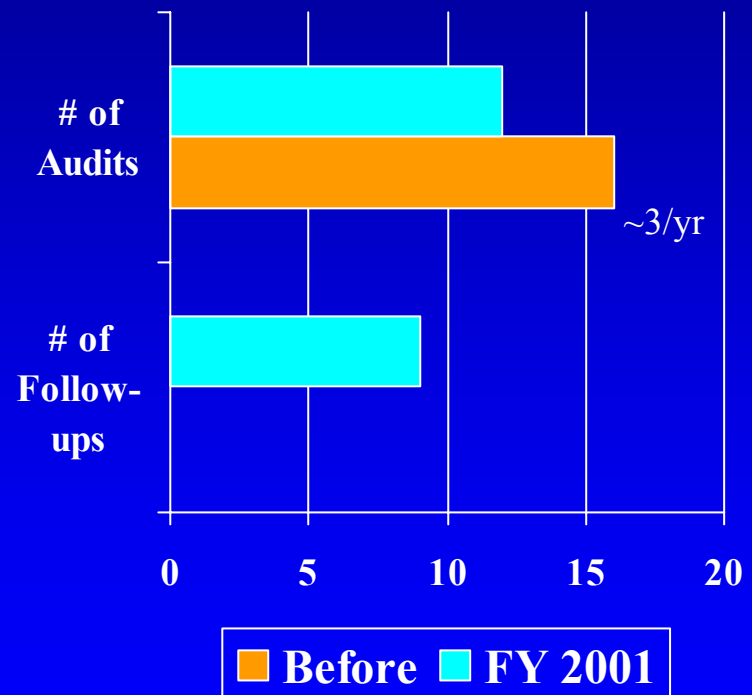
Operation of CPTS



Technical Assistance Activities

- 28 CP audits, last 7 conducted totally by CPTS staff (tanneries, textiles, slaughterhouses, bottling plant, electroplating, meat processing, brewery, sugar processing, milk processing, hospitals, quinoa processing, wine production, and tin foundry)
- 9 follow-up visits, 6 conducted totally by CPTS staff

Activities Conducted



Results from Follow-up at 9 Plants

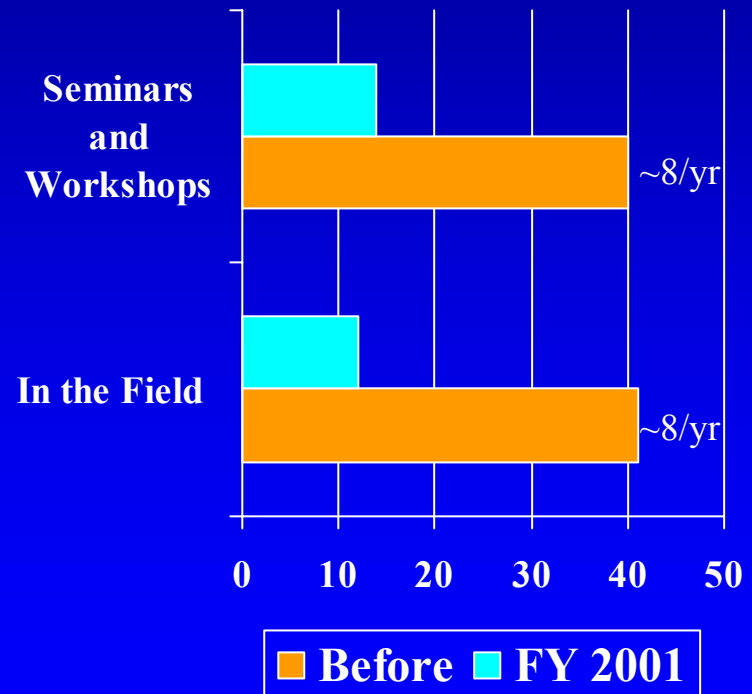
- Annual water savings of ~ 3.8 million m^3/yr (equivalent to almost 2 months of consumption for the City of La Paz)
- Annual reduction in organic discharge of ~ 3.8 million kg BOD/yr
- Annual reduction in product losses of $\sim 383\text{K}$ kg/yr
- Annual economic savings of ~ 1.0 million US\$/yr
(Estimated for 25 plants: ~ 0.65 million/yr)
- Total investment of ~ 2.2 million US\$
(Estimated for 25 plants: ~ 0.42 million)

Training and Capacity Building

FY to date:

- 14 training sessions (seminars and workshops)
- 12 training sessions in the field
- All training has been delivered totally by local staff

Training Sessions

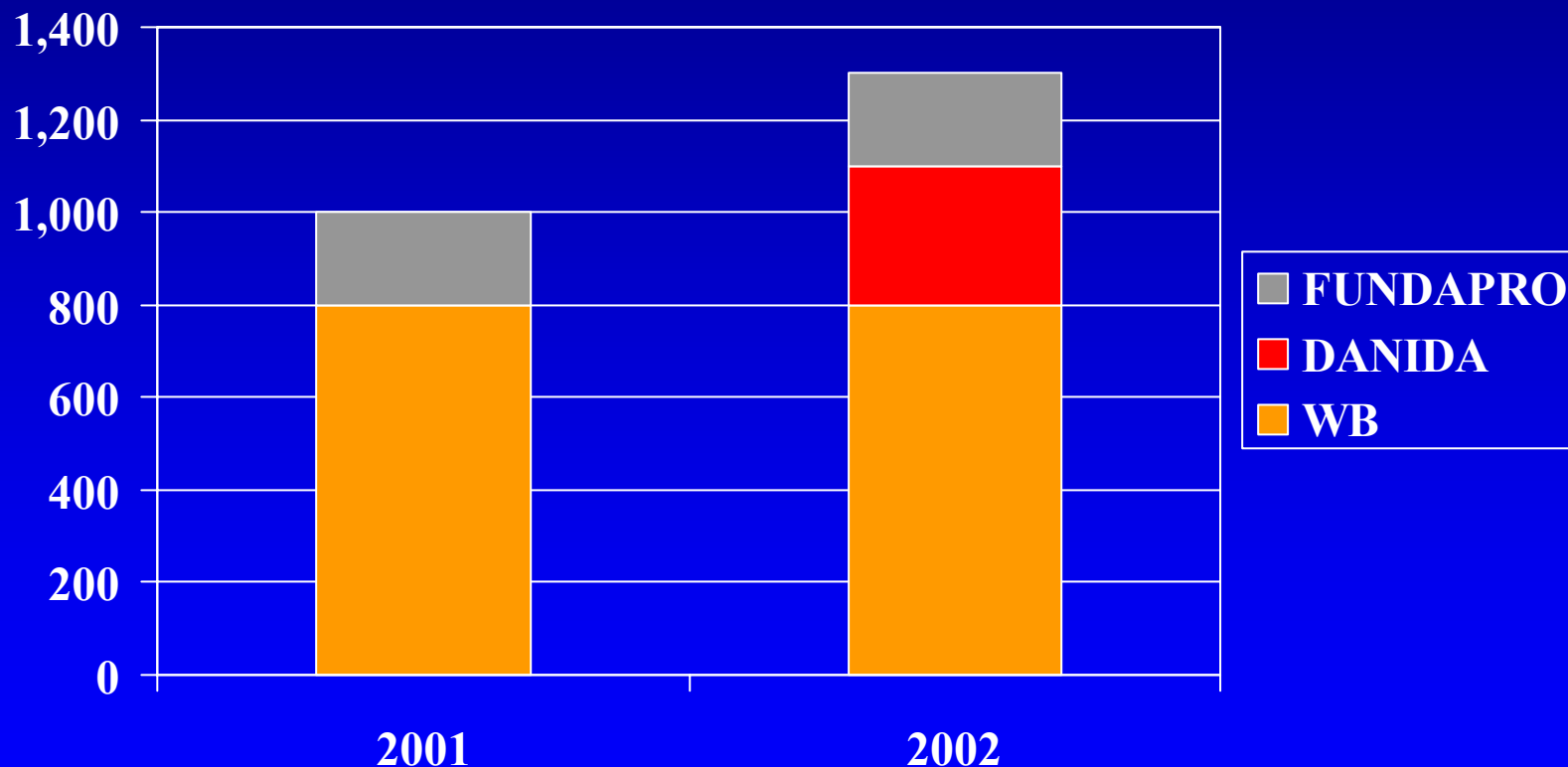


Cleaner Production Fund

- CPTS is devoting significant resources to:
 - Establish a mechanism for funding cleaner production projects with FUNDAPRO (second tier bank)
 - Develop a portfolio of eligible projects, which will be available at the end of November with World Bank support
 - Obtain ~ \$300K from DANIDA for the Fund
 - Obtain support from other donors

Possible Funding Sources for the Cleaner Production Fund

(\$ 000)



Policy Support for Laws and Regulations

- CPTS has provided technical support to CNI and the GOB on the development of:
 - Water Tariff Regulations proposed by Aguas del Illimani S.A. (AISA), the private water administrator in La Paz
 - Electricity Tariff proposed by electricity distributors
 - Potable Water and Sewage Law proposal
 - Environmental regulations for the manufacturing sector
 - Technical guides, which will be used in the future as part of the Regulation frame in the manufacture sector

Outreach and Information Dissemination

- 9 case studies prepared to publicize results achieved through implementation of audit recommendations
- IT person hired to manage CNI's website and assist in information dissemination and outreach (www.bolivia-industry.com/sia/home.html)
- Development of a recycling database to promote the exchange of residues between industries
- Development of an Eco-efficiency award to publicly recognize companies adopting environmentally friendly practices (launched in October 2001)

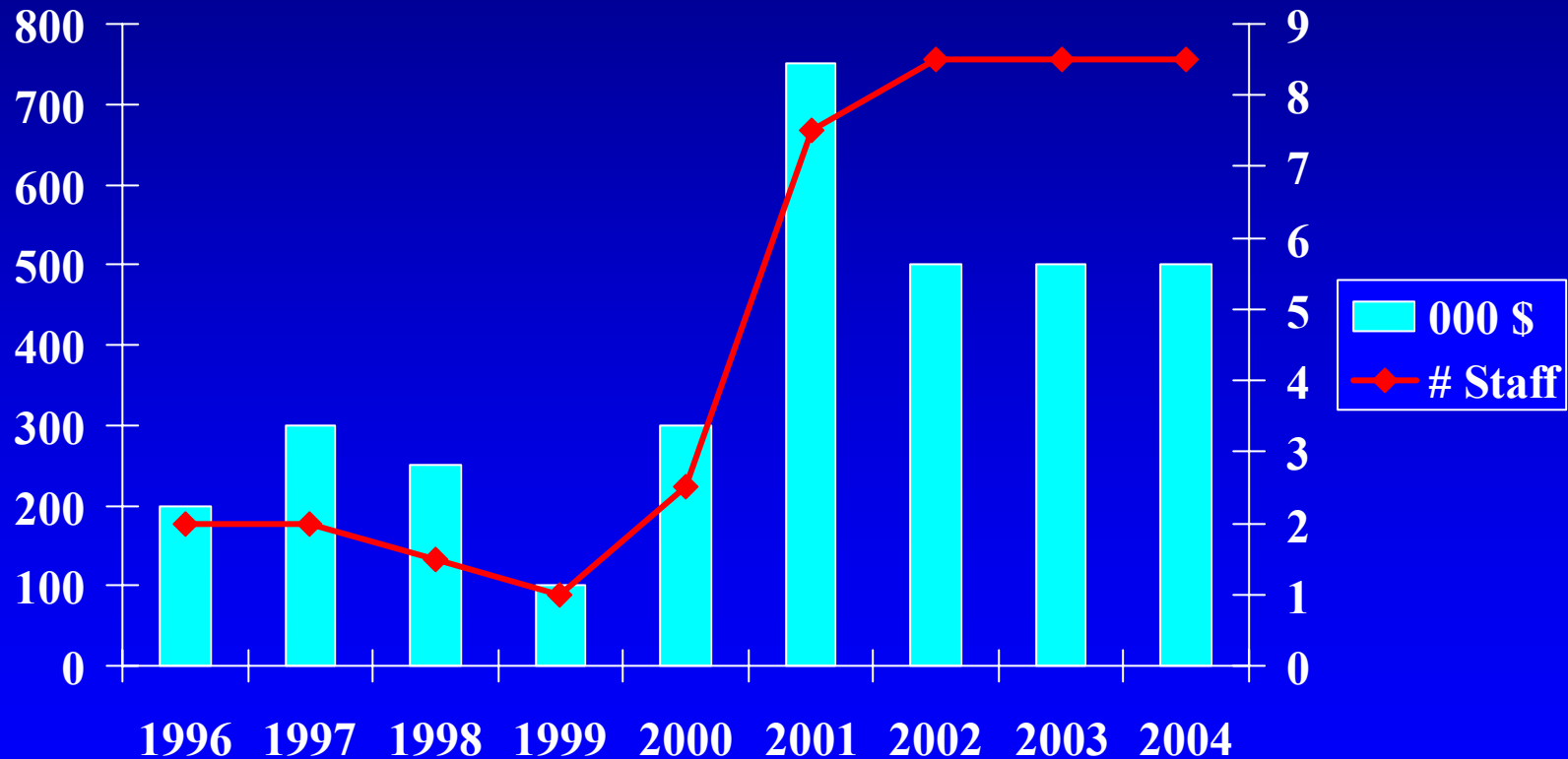
Expanding Linkages with Universities

- 22 scholarships funded to support the developing of theses on cleaner production, environmental management and environmental issues for selected industry sectors (2000 - 2001)
- New program for scholarships launched in October (2001 - 2002)
- Development of an environmental management curriculum for the Chemistry Department of UMSA, and the Military School of engineering. Some courses are completed and are already being taught

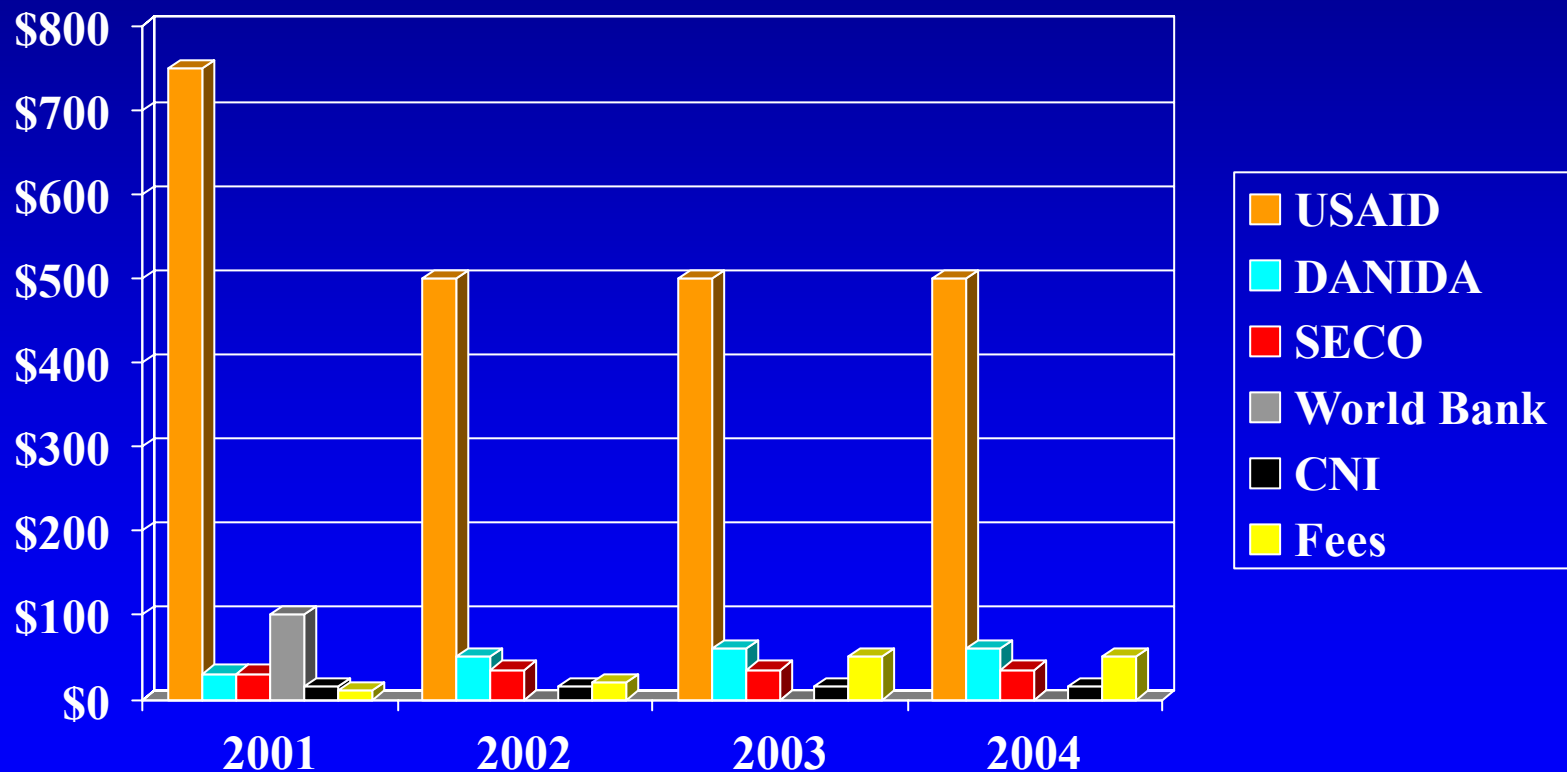
Technical Assistance to Municipalities

- CPTS is providing technical assistance to the Municipality of La Paz:
 - regarding garbage classification (concluded)
 - regarding the management of the municipal landfill (concluded)
 - by conducting a CP audit in the municipal slaughterhouse (in preparation)
- CPTS is providing technical assistance to the Municipalities of Tarija and Sucre:
 - by conducting CP audits in selected industries (two in Tarija, concluded)
 - by conducting CP courses (one in Sucre, concluded)
 - by coordinating and reviewing environmental management efforts conducted by ACIDI/VOCA

USAID Funding and CPTS Capacity: FY1996-2002



CPTS Funding Sources (US\$ 000)



CPTS Long Term Goals

- Create a functioning market for P2 and E2 services and technologies in Bolivia
- Develop CPTS into a center of excellence that provides technical, training, and information services to industry, government, and municipalities on environmental issues, particularly P2 and E2
- Develop a sustainable funding base for CPTS services that includes fees for service and multiple donors

Plans for 2002 and Beyond

- Technical Services and Training
 - Expand activities to demonstrate the benefits of P2/E2 approaches:
 - New industrial sectors: quinoa processing, wine production and foundries
 - New service sectors: tourism and health
 - New clients: Municipalities, water and wastewater utilities
 - New services (EMS, ISO, development of projects)
 - Expand training to include
 - Project development
 - EMS

Plans for 2002 and Beyond (2)

- Establish and Support the CP Fund
 - Seek new funding sources
 - Test eligibility criteria and lending procedures
 - Prepare project development documents for initial projects
 - Serve as technical advisor to the Fund and evaluate technical merits of future projects

Plans for 2002 and Beyond (3)

- Improve Legal and Regulatory Framework
 - Support the development of energy and water tariffs that encourage more efficient resource use
 - Support CNI's negotiations with government ministries
 - Develop technical guides, together with the Vice Ministerio de Industria y Comercio Interno

Plans for 2002 and Beyond (4)

- Expand Marketing & Outreach Activities
 - Collaborate with LIDEMA in an energy and water conservation outreach program
 - Serve as a source of information on P2 and E2 practices and technologies
 - Develop and publicize additional case studies
 - Support development and operation of CNI/CPTS website
 - Annual awards to industry
 - Promote the development of a functioning recycling market
 - Expand the number of scholarships for research in P2 and E2